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CLAIMS:

1. An underwater hydrocarbon reservoir water injection system (1) for removing particulates from water, comprising separating means (5) for removing
5 particulates from water, and pumping means (8) downstream from the separating means (5) for drawing surrounding water upstream of the separating means into the separating means, characterised in that the system is incorporated into a retrievable module (2) for use with a modular seabed processing system, the separating means comprises dynamic separating means
10 (5) comprising a hydrocyclone and the system (1) further includes means (6) for collecting particulates separated from said water by the dynamic separating means (5), means (7,32) for removing collected particulates from the particulate collecting means (6) and means (24,30) for directing at least some of the at least substantially particulate free water from the dynamic separating means (5) to the
15 particulate removal means (7,32) to enable the particulate removal means to remove collected particulates and eject them into water surrounding the module (2).
2. The system as claimed in claim 1, wherein the pumping means (8) is
20 arranged to inject at least substantially particulate free water from the dynamic separating means (5) into a hydrocarbon reservoir at a pressure higher than the pressure of fluid in the reservoir.
3. The system as claimed in claim 1 or 2, including a combined dynamic
25 separating and particulate collecting means (31).
4. The system as claimed in any preceding claim, wherein the particulate removal means (7) is arranged to periodically remove collected particulates.
- 30 5. The system as claimed in claim 1, 2 or 3, wherein the particulate removal

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means (32) is arranged to continuously remove collected particulates.

6. The system as claimed in any preceding claim, wherein the particulate removal means (32) comprises a venturi flume.

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7. The system as claimed in any preceding claim, including a filter (13) upstream of the dynamic separating means (5).

8. An underwater method for removing particulates from water and injecting
10 the resulting water into a hydrocarbon reservoir, comprising the steps of
pumping water downstream of separating means (5) to draw surrounding water
upstream of the separating means into the separating means, separating
particulates from the water in the separating means and injecting the resulting
water into a hydrocarbon reservoir, characterised in that the separation occurs in
15 a retrievable module (2) for use with a modular seabed processing system, the
particulates are separated from the water in dynamic separating means (5)
comprising a hydrocyclone and collected in a collecting means (6) then removed
from the collecting means (6) by particulate removal means (7) to which at least
some substantially particulate free water from the dynamic separating means (5)
20 is directed to enable the particulate removal means (7) to remove collected
particulates and eject them into water surrounding the module (2).

9. The method as claimed in claim 8, including the subsequent step of
injecting at least substantially particulate free water from the dynamic separating
25 means (5) into a hydrocarbon reservoir at a pressure higher than the pressure of
fluid in the reservoir.